Cambridge Assessment International Education

Cambridge International AS & A Level

CANDIDATE NAME					
CENTRE NUMBER					
CANDIDATE NUMBER					

5846348541

INFORMATION TECHNOLOGY **9626/12**

Paper 1 Theory **October/November 2020**

1 hour 45 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS
- Answer **all** questions.
- Use a black or dark blue pen.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You may use an HB pencil for any diagrams, graphs or rough working.
- Calculators must **not** be used in this paper.

INFORMATION
- The total mark for this paper is 90.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **20** pages. Blank pages are indicated.

1 **(a)** Tick the most accurate statement regarding the use of vishing.

	✓
Vishing involves mobile (cell) phone text messages persuading people to reveal their personal data	
With vishing, a text message may include a telephone number that connects to an automated voice response system	
Vishing involves installing a piece of malicious software on a customer's computer	
Vishing involves a phone call to persuade people to reveal their personal data	

[1]

(b) Describe, in detail, **three** measures you could take to help prevent you being a victim of vishing.

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(c) Tick the most accurate statement regarding the use of smishing.

	✓
With smishing, a text message is received which may include a website URL and invite the receiver to go to the site	
Smishing is the use of video clips persuading people to reveal their personal data	
Smishing involves using emails to persuade people to reveal their personal data	
Smishing involves receiving a phone call	

[1]

(d) Describe, in detail, **three** measures you could take to help prevent you being a victim of smishing.

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2 In both parts **(a)** and **(b)** tick the most accurate statement referring to the digital divide.

(a)

	✓
It is often more expensive to purchase goods online than from a shop	
The digital divide only relates to the use of personal computers	
The quality of mobile (cell) phone reception is the same everywhere	
The digital divide can exist between the educated and the uneducated	

[1]

(b)

	✓
The divide between regions of the world is referred to as the regional digital divide	
The digital divide can exist between rich and poor people	
The digital divide does not usually exist between developed and developing countries	
Both urban areas and rural areas tend to have the necessary infrastructure for broadband	

[1]

3 An IT specialist is employed by a car showroom to manage the spreadsheets which record all details of car sales. Here is a spreadsheet showing some of the cars for sale in a showroom.

E18 | =SUMIFS(E5:E15, A5:A15,I6,G5:G15,">"&I8)

	A	B	C	D	E	F	G	H	I
1	Make	Model	Engine (litres)	Licence	Price	Economy (L/Km)	Year made		
2									
3									
4									
5	Daui	2000	1.8	JPY 648	$25,000	18.0	2016		
6	Tiaf	Visette	1.4	FGB 721	$15,500	16.7	2010		Daui
7	Arajug	EX	1.4	FFA 419	$18,000	13.7	2009		
8	Daui	1000	2	BFK 297	$10,500	12.0	2003		2010
9	Tiaf	Firetips	1.2	GFL 364	$11,000	12.1	2012		
10	Tiaf	Firetips	1.2	HDC 684	$12,500	12.3	2013		
11	Arajug	EX	1.2	JYU 381	$42,500	15.5	2016		
12	Daui	2000	1.8	KJN 384	$28,000	18.5	2017		
13	Tiaf	Delrah	1.6	GXL 347	$19,000	16.3	2013		
14	Arajug	JX	1.2	KNN 478	$47,500	16.6	2017		
15	Tiaf	Visette	1.4	LSA 442	$45,000	19.9	2018		
16									
17									
18					53000				
19									

(a) The IT specialist has entered a formula in E18 after receiving a request from the showroom manager.

(i) Write down the information the showroom manager asked for.

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(ii) Explain, step by step, how the spreadsheet software calculated the result.

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(b) Describe, step by step, how the IT specialist could set up the cell so that the user could just use a mouse to change the input in cell I6.

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(c) The IT specialist accidentally saved the spreadsheet as a csv file.

(i) Explain what a csv file is.

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(ii) Describe the changes the user would see in the spreadsheet after it is opened again using spreadsheet software.

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4 A secretary has been asked to add the data of three new employees to his company's database of employee records.

These include payroll numbers and the date these employees joined the company:

J45786	28/10/2019
K68932	11/11/2019
M40932	30/12/2019

Analyse the effectiveness of limit checks on the upper limits and format checks in validating this data.

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5 A company selling desktop computers uses batch processing to process its customer orders. The company updates the stock master file every week.

Two sets of data are shown below.

The first set represents part of a transaction file containing the computer ID numbers and either the total number of items sold to customers or the amount of new stock delivered to the company in a particular week. The type of transaction is given a code of either S or D. S means that the number of computers in stock needs to be reduced. D means that new stock needs to be added.

The second set represents part of the master file used by the company. This shows the computer ID numbers, the make of computer, the hard disk size and number in stock.

Transaction file

ID_number	Quantity	Type
D20992	40	D
D43487	45	S
D87214	36	S
M47155	43	S
M75860	76	D
R03272	55	S
R62925	92	S
S32249	67	S
S47700	85	D
T49443	61	S

Master File

ID_number	Make	Hard_disk	Number_in_stock
D15609	Dingly	1	162
D20992	Dingly	1.5	145
D43487	Dingly	2	120
D87214	Dingly	3	150
M47155	MBI	1	135
M75860	MBI	2	158
M94382	MBI	4	182
R03272	Rickard	1	147
R55530	Rickard	1.5	126
R62925	Rickard	2	181
S32249	Sensen	2	130
S47700	Sensen	3	167
T49443	Trudel	1	122
T88350	Trudel	4	158

Using this data, explain the steps involved in updating the master file using this transaction file for both types of transaction. You may assume that the transaction file has already been validated and sorted.

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6 Josefine is in charge of a team of engineers who often work away from the office where she is based. Every week, she keeps in contact with the engineers by means of a web-conference.

Describe how Josefine sets up her web-conference each week.

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7 Describe the roles of a compiler and a linker and explain why both might be necessary in the conversion of a high-level language program.

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8 Select the most appropriate data type for each of the following examples, giving a reason why alternative data types would not be suitable. If the data type is numeric, specify the type of numeric data that would be most appropriate and give a reason. The reasons must be different for each example.

(a) A phone number, such as 028 9649 6437

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(b) A number used to show the fraction of students who like IT, such as 0.125.

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(c) The number of children in a family, such as 4.

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(d) A person's state of employment, such as employed or not employed.

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(e) The amount of money a person earns, such as $100.50.

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9 Many factors, including the accuracy of collected data, affect the quality of information.

Describe how the method of collecting data may affect the accuracy of the data.

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10 There are several different generic file formats which can be used to save data.

Evaluate, by weighing up the advantages and disadvantages, the use of txt format to save data.

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11 Many companies use management information systems (MIS).

Without describing the role of the MIS manager, describe how other managers within a company would use MIS.

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12 When a person buys a PC it comes with a variety of hardware and software.

(a) Define the term software.

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(b) Explain why the two types of software are needed by a PC user.

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13 Many companies allow workers who work from home to access company data using a virtual private network (VPN).

Discuss the benefits and drawbacks to companies of using a VPN.

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